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WESTERN AND INDIAN ART MUSIC STYLES MANIFESTED IN THE PLAYING TECHNIQUES OF THE VIOLONCELLO AND THE SARANGI

by

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ABSTRACT

A comparison between two related string instruments, the sarangi and the violoncello, which belong to two very different musical traditions, Indian and Western art music respectively, has been the basis for an investigation into the relationship between instrumental idiom and musical style. A description of the instruments, focussing mainly on the less known sarangi, establishes basic structural similarities but also certain differences. Tracing their historical background has shown that each instrument is representative and well-established within its musical tradition. The performance technique of cello and sarangi is described in detail, followed by a discussion of teaching materials and standards of excellence for both instruments, both of which show that the instrumental idiom of sarangi and violoncello are considerably different in technique and also in emphasis. While sarangi technique is highly developed in left-hand movement, especially in shifting and glissando techniques, it places little emphasis on aspects of bowing. In cello playing, on the other hand, left-hand dexterity and a highly developed bowing technique are important. Standards of excellence for the sarangi are applied principally to expressiveness, including tone quality and nuance of pitch movement; virtuosity as such is not valued. Cellistic standards of excellence emphasize virtuosity as well as expressiveness through quality and variety of tone. The two instrumental idioms are placed in the context of their respective musical traditions by relating them to socio-cultural and aesthetic aspects of their musical style. This

has shown that technical scope and playing standards reflect basic style characteristics of the music, which in turn are manifestations of culture in the wider sense.

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CHAPTER I

INTRODUCTION

This is a comparative study of two stringed instruments which belong to two different musical traditions, the violoncello of the Western tradition and the sarangi of the Indo-Pakistani tradition. Both instruments share basic features of construction and each demands a highly developed technique of performance.

Seen from within the perspective of their respective musical tradition, both the violoncello and the sarangi cover a full range of technical possibilities. Especially in Western music, twentieth-century composers are considered to have expanded the string idiom to the limits of the instrument's capability. Only a comparison of the two instruments from a cross-cultural view makes it plain that the idiom of each is based on a selection of traits and emphases, and that their absolute range of technical possibilities may likely be as great or even greater than the idioms of both combined.

Basic to the understanding of any instrumental idiom is the analysis of the instrument's playing technique. At the same time, this analysis alone cannot account for the characteristic traits of the idiom, its standards of excellence and the particular scope of its development. Essentially, these are related to the musical tradition to which the instrument belongs, and the instrumental idiom as a whole is governed by the overall style of this tradition. It follows that the idiom of any instrument should be examined in the light of its musical tradition. In the case of the violoncello and the sarangi

these traditions are Western and Indo-Pakistani art music respectively.

This study investigates the performance technique of both the violoncello and the sarangi and then relates them to the overall style of Western and Indian music with the aim of discovering how their technical scope and playing standards reflect basic style characteristics of the musical traditions of each, and how, conversely, string technique itself provides a concrete manifestation of musical style.

Method

Comparative musicology is the name originally applied to the study of non-Western music by Western musicologists. The replacement of this name with the current term, ethnomusicology, was largely based on a reaction against the ethnocentric character of early comparative musicology. Yet comparison remains a viable though often unvoiced concept in ethnomusicology as long as tools and categories, if not basic presumptions of Western musicology, continue to be used by scholars in the field.

In this study, a comparative approach is used explicitly in order to provide the necessary perspective "from without." The limits of one phenomenon can best be perceived against an alternative. Ideally these limits should be perceived against a universe of possibilities of which that phenomenon represents a specific selection. Practically, however, even a universe could only be perceived by implication as the sum total of specific selections, each representing an alternative. It may be practically impossible to study one phenomenon in the context of all existing alternatives. But considering

it even against one alternative makes it possible to perceive it from a distance and to realize that each alternative represents a choice, not an absolute.

Applied in this sense to instrumental technique, the comparative principle leads to the realization that even the highly developed contemporary Western string idiom does not reach "the limits of the instrument," but rather, the limits within a chosen framework of technical possibilities. In the realm of musical style, consideration of an alternative musical idiom brings to consciousness characteristics at the highest level of generalization. It is notable that writings about Western musical style invariably deal with the phenomenon in terms of period, of national or of individual style. Since the authors of such works, and Western musicologists in general, operate entirely from within their own musical tradition they perceive different substyles within it, but are unaware of--or unconcerned with--the style of this tradition in an overall sense. Ethnomusicologists, on the other hand, often neglect to make their comparative vantage point explicit.

A further use of the comparative approach lies in the realm of methodology as applied to the study of the two instruments under consideration. It is based on the assumption that techniques and approaches of Western musicology are highly useful when applied to studies of non-Western music. Thus the methods of describing and analyzing string instruments and their techniques, as applied particularly to the cello, provide a model for the discussion of these elements

as applied to the sarangi.

Criteria

The choice for this study of the two instruments, violoncello and sarangi, is based on three essential criteria:

(a) They are physically comparable. This means that they share basic features of construction and sound production. Both violoncello and sarangi belong to the family of bowed chordophones.[1] While the two instruments differ in size, they are constructed of the same basic parts: box-shaped resonator, belly, neck, fingerboard, and peg box. The playing strings of both are fastened at the lower end of the body and at the neck by lateral pegs, with intermediate supports in the form of a bridge on the belly and a nut at the top of the fingerboard. Both instruments are played in an upright--*a gamba*--position, and the method of sound production of both is the one common to bowed chordophones in general.

(b) Each instrument is representative of its musical tradition. This means that it is an established instrument having evolved its own technique in accordance with that music. Both violoncello and sarangi are major instruments of Western and Indian art music respectively. Each is not only a solo instrument but also takes an essential part within the ensembles of its tradition. Further, each has been a part of its musical tradition for at least three centuries, so that each

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[1] Throughout this study the descriptive method and terminology applied to instruments are derived from the standard model of N. Bessaraboff, *Ancient European Musical Instruments* (Boston: Museum of Fine Arts, 1964), pp. 208ff.

instrument and its technique has become indigenous to its culture.

(c) Both the instruments as well as their performance techniques are capable of detailed description and analysis. This is possible because not only the instrument but all aspects of its technique are accessible to visual observation. Unlike wind instruments, or the voice, whose sound production, articulation, and even pitch control cannot be observed directly,[2] all stringed instruments have a fully visible performance technique that can enable the observer to isolate and identify its individual features.

A further aspect of comparability between the two instruments and their playing method concerns the tonal system each uses. The presence of two comparable tonal systems is a practical asset in extending the comparison between the musical idiom of each instrument. Both Western and North Indian art music do in fact have a comparable tonal inventory, including a gamut of twelve semitones with a basic seven-step scale and a consonance system based on the primary intervals of octave, fifth and fourth. In its _shuddh_ (pure or unaltered) form, the basic seven-step Indian scale corresponds to the natural or major scale of Western music, and the Indian nomenclature for the seven steps is therefore comparable to the Western tonic sol-fa system (see fig. 1).

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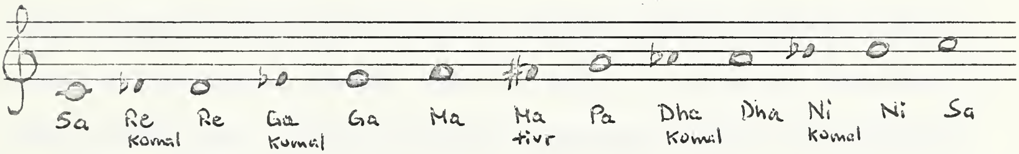
[2] This point is illustrated by the highly subjective parameters used for vocal music in the pioneering analyses of folk music idioms by Alan Lomax, "Song Structure and Social Structure," _Ethnology_, I (1962), pp. 428ff.

Figure 1.

Indian shuddh (unaltered) scale	Western major scale (tonic sol-fa system)
Sa	Do
Re	Re
Ga	Mi
Ma	Fa
Pa	Sol
Dha	La
Ni	Si
Sa	Do

In Indian music, pitch is relative, and there is no established frequency regulation. The Indian scale system, like the tonic sol-fa, represents not absolute pitches but scale degrees relative to a tonic which itself remains fixed--there is no modulation in Indian music. Accordingly, the Indian system of note inflection differs somewhat from the Western one, for it is scale degrees, not absolute pitches which are altered (see fig. 2).

Figure 2. Indian scale with all possible inflections, in Western notation based on a "c" tonic



The alteration of scale degrees enables the formation of a wide variety of different scale types, including the ecclesiastical modes and other scales not found in Western music. Each scale type in turn provides the tonal material or "key signature" for the one or several individual rāgs, or melodic schemes. A composition is normally based throughout on one specific rāg.

Indian art music recognizes three main octave registers (sthān or saptak): the main or central octave (madh), and the octaves below and above it (mandr and tār). These three registers represent the tonal limit of the voice, and of nearly all instruments.

Microtonal inflection, though once an integral part of the Indian tonal system, has a limited place in present-day musical practice. Empirical studies confirm that, generally, "intonation is governed by the individual musician's feeling for intervals,"[3] just as "expressive intonation" is used by Western musicians.[4]

These criteria provide a workable basis for comparison; at the same time their application to the two instruments in question raises certain problems. For one thing, the violoncello and the sarangi may have comparable features, but they are certainly not similar in all respects. This problem is inherent in any comparison between instruments of two different cultures, unless it is one and the same instrument adapted by each of the cultures to its own musical idiom. Indian classical music has, in fact, adopted several European instruments, among them the violin, which is today a recognized instrument in South Indian music. Since the early nineteenth century its technique

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[3] N. A. Jairazbhoy, The Rags of North Indian Music, Their Structure and Evolution (London: Faber and Faber, 1971), p. 34. For an empirical study see N. A. Jairazbhoy and A. W. Stone, "Intonation in present-day North Indian classical Music," Bulletin of the School of Oriental and African Studies, XXVI, Pt. 1 (1963), pp. 119-32.

[4] D. Cherniawsky, "Casals's Teaching of the Cello," Musical Times, 93 (Sept. 1952), pp. 398f, see also Percy A. Scholes, The Oxford Companion to Music (London: Oxford University Press, 1960), pp. 1019f.

has developed in India on indigenous lines, however, continuous and increasing communication with the West during this relatively short period has made a certain amount of Western influence on its technique inevitable.[5] For this reason, an instrument adopted as recently as the violin into India cannot be considered a suitable vehicle for an inquiry into the basics of idiom and style. Another problem arises from the assumption that visibility will solve the problem of describing and analyzing what is part of the creative process in music--it cannot. But it can at least reduce the difficulties of identifying aspects of sound production which in their totality remain within the intangible realm of artistic expression.

Sources

Scholarship based on practical experience is a part of both Western musicology and ethnomusicology. Leading ethnomusicologists postulate the need for actual musical experience as a prerequisite for a true understanding of the music they study, and leading institutions provide a framework for this "learning by doing" approach. The precedents were set by writers on European music several centuries ago, notwithstanding the fact that Western musicology is also a specialized academic discipline with predominantly theoretical concerns. Writers in the field of instrumental music and performance style in particular, whether authors of early treatises or of contemporary studies, are

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[5] This is clearly reflected in C. S. Iyer, "Ideals in Violin Technique in Relation to Karnatic Music," Madras, Music Academy Journal, 30 (1-4), (1959), pp. 70-77.

often practitioners as well as analysts of music.[6] The author of this thesis is a performer on both cello and sarangi. Practical training and experience in both Western and Indian art music have made viable the analysis and comparisons made in this study. Thus this study represents practical application of the concept of "bi-musicality", as espoused by ethnomusicologists.[7]

Instruction from a competent performer is perhaps the best primary source for standards not only of performance technique but also of performance style. The learning situation is ideal for the perception of such standards since they are being taught directly by the teacher and can be verified by the student. The present author's notes made from private instruction are therefore used as source information, especially for the sarangi and Indian music, where published references on performance technique and style are practically non-existent. For the violoncello, much teaching material is published, so that reliance on personal lesson notes is less crucial.

Published sources of Western music used in this study include tutors, studies and treatises as well as music literature itself, for the cello and for stringed instruments in general. In addition,

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[6] For examples of early treatises written by performers or teachers, see Sylvestro de Ganassi, Regola Rubertina (Venice, 1542-43), Reprint (Leipzig, 1924) and Leopold Mozart, A Treatise of the Fundamental Principles of Violin Playing (Gründliche Violinschule), trans. E. Knocker (London: Oxford University Press, 1951). Writers on the violoncello, in particular, have invariably been cellists themselves, for example Jean Louis Duport, Wilhelm Joseph Wasielewski, Klaus Marx, and Josef Eckhardt (for their works, see bibliography).

[7] Its best protagonist is Mantle Hood, in "The Challenge of Bi-Musicality," Ethnomusicology 4 (1960), pp. 55-59.

historical and analytical studies relating to the violoncello and string playing have been consulted. Published sources in the area of performance style include important works defining or setting stylistic standards, whether they be treatises, music criticism or studies of musical style.

Published materials on Indian music consist mainly of works of a general nature with an historical or theoretical orientation. These include the Sanskrit treatises, which date mostly from a pre-sarangi period, and the more recent writings in English, Hindi and Urdu, many of which are inspired by European scholarship.[8] Very few writings deal specifically with performance technique or style of either vocal or instrumental music, these being concerns of the performer rather than the theorist. The sarangi, as well as most other Indian instruments, has normally been played and taught by unlettered hereditary professionals as part of an entirely oral tradition. Published teaching materials are therefore almost unheard of, and music literature is scarce. The music available in notation is written out in the letters of the Indian notation system, a prescriptive rather than descriptive musical notation.

To supplement the source material in Indian music much use has been made of recordings, made by the author, of eminent Indian and Pakistani performers, including both formal performances as well as demonstrations recorded during sarangi lessons. This material is supplemented by recorded interviews between the author and Indian and Pakistani musicians (see appendix).

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[8] For a characterization of these writings see Harold Powers, "Indian Music and the English Language," Ethnomusicology, IX,1 (Jan. 1965), pp. 1-12.

CHAPTER II

THE INSTRUMENTS: SARANGI AND VIOLONCELLO

Physical Characteristics

Sarangi

The structural parts of the sarangi correspond to those of the Western stringed instruments, so that Western terminology can be appropriately applied to their description. The sarangi in size and dimension approximates the viola. Its total length, the width of its waist and two bouts and the vibrating length of its strings correspond quite closely to those of the viola (see fig. 3).

The sarangi is shaped from a single piece of wood, but its three structural parts, sound box, neck, and peg box, are clearly set off from each other. The frontal outline of the body is pear-shaped or trapezoid in shape. The incurved sides are not quite symmetrical; the two bouts on the left side are wider, the waist deeper, and correspondingly the left shoulder is more prominent. The curves on the right side are less sinuous, and the shoulder blends into the neck. On both sides the lower bouts are cut off at about a right angle by the flat lower end of the instrument. The open belly is covered with parchment, usually goat skin, which is glued to the wood. Often either two or four small sound holes are made by burning, either at the lower two, or at all four corners.[9] Because of the pressure exerted by the

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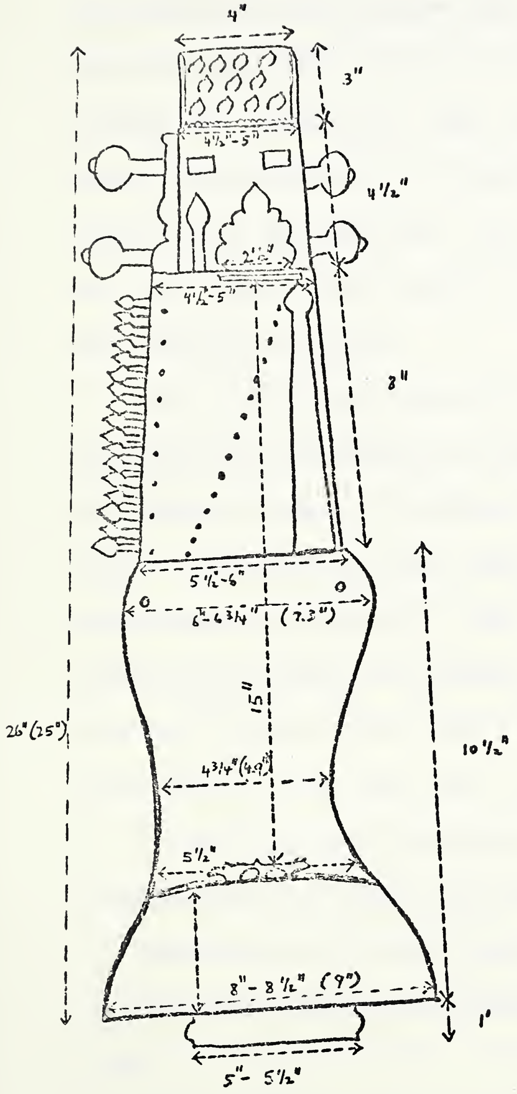
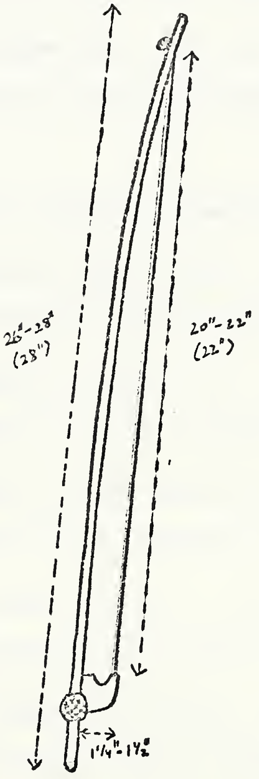
[9] The player, not the instrument maker, uses a lighted cigarette which makes a hole just right in size.

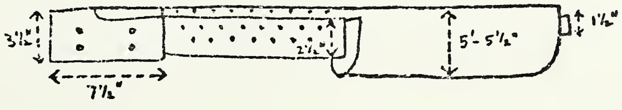
Figure 3. Sarangi measurements
based on average from three instruments

Sarangi: viola measurements in parentheses

bow: double bass bow measurements in parentheses, both according to N. Bessaraboff, Ancient European Musical Instruments, (Boston: Museum of Fine Arts, 1964) pp. 306 and 350.







strings on the bridge the parchment stretches, which results in a concave shape of the belly.

The deep sides are approximately perpendicular to the belly. Toward the back, the sides lose the curves of both bouts and waist so that, seen from the back, the body has straight sides. The sides curve into the back which itself is vaulted. The upper end of the body is rounded and contains one large sound hole. A thin supporting bar or post running underneath the parchment is fitted between the upper and lower end of the sound box. Both upper and lower ends are more than one inch thick, while the rest of the body has an average thickness of one quarter of an inch.

The neck of the sarangi is very wide and slightly asymmetrical, the right side tapering more toward the peg box than the left side. Its frontal surface is completely flat and no more than half an inch thick. In addition to two fingerboards, inlaid in ivory, the neck accommodates two series of small ivory reinforced holes through which sympathetic strings are threaded. One series of nine holes runs along the right side, and the other of fifteen holes runs diagonally from the lower right to the upper left corner of the neck surface. The sides of the neck are nearly perpendicular to the front and are quite deep. Together with the front they form a kind of peg box along the back of the neck which holds three lengthwise rows of thin lateral pegs for fastening the twenty-four sympathetic strings threaded through the neck.

The peg box proper is rectangular in shape and its front surface and sides are in line with the neck. It is divided into two distinct

parts. Immediately above the neck is the larger part, holding four large lateral pegs, two on each side. The playing strings are fastened to these pegs at the back (occipital fastening). The front of the peg box is closed, except for two openings for the strings to pass through; one larger on the left side is shaped like a fluted arch, the other on the right side is narrow and shaped like a minaret or stylized spear-head. The upper, smaller part of the peg box holds 11 sagittal anterior pegs in three horizontal rows to accommodate another set of sympathetic strings, fastened frontally.

The sarangi has only three playing strings of thick hand-twisted gut, and a total of thirty-five sympathetic strings of brass and steel wire. At the lower end, all these strings are fastened to a wooden boss or ledge which is attached to the bottom of the instrument and reinforced with ivory plates at the front and base. The boss contains holes for all the strings, arranged in three rows. Each playing string is passed through a hole from the front and held in place by a knot. Each wire string is bent around the boss, passed upwards through its hole, bent round itself, and pulled back tightly through the same hole (see fig. 4).

An ivory bridge in the stylized shape of an elephant holds all the strings (see fig. 5). It is placed on a leather strap passing across the parchment belly about one third from the bottom edge. As was mentioned, the pressure of the strings on the bridge results in some stretching of the parchment, lowering the height of the bridge. Because of its asymmetrical construction, the two feet of the bridge are not centered between the sides of the belly, hence the left foot, party. [illegible]

Texas [illegible]

[illegible]

Figure 4. Sarangi: bottom fastening of sympathetic strings

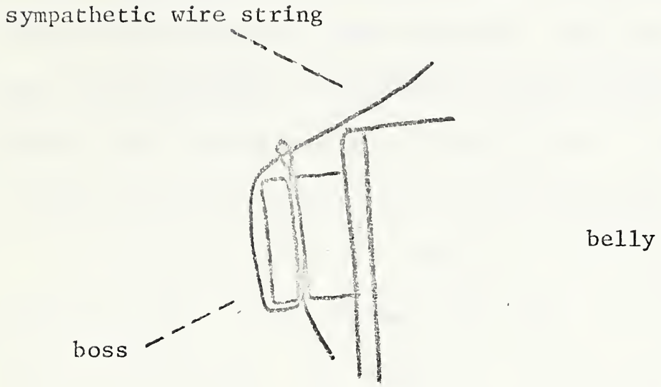
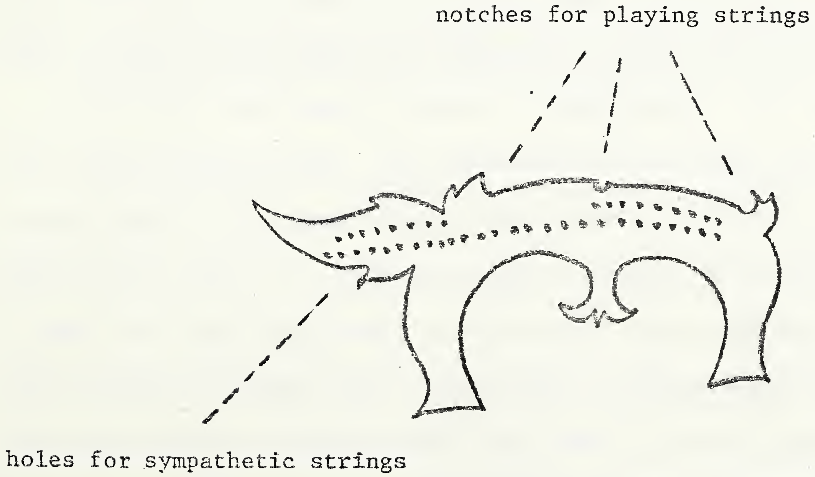


Figure 5. Sarangi bridge (actual size)



which stands closer to the middle, presses deeper into the parchment. To compensate for this, a block of wood is placed under this foot to restore the bridge to a level position. Only the three playing strings pass over the bridge at irregularly spaced notches. The sympathetic strings pass through two rows of small holes in the bridge, corresponding to their holes at the lower end of the instrument.

At the upper end of the fingerboard the playing strings pass over a notched ivory nut and through the larger, arch-shaped opening in the peg box to the pegs. The sympathetic strings passing through the lower row of holes in the bridge are threaded through the holes at the neck of the instrument to the set of lateral pegs at the neck. The remaining strings pass through the higher row of holes in the bridge, past the nut of the playing strings, and over two small notched rectangles of ivory which are placed on the lower peg box and act as guides and cutoff points for these strings. These sympathetic strings reach the pegs in the upper peg box through a row of small holes in a finely fluted ivory ledge which separates the two peg boxes.

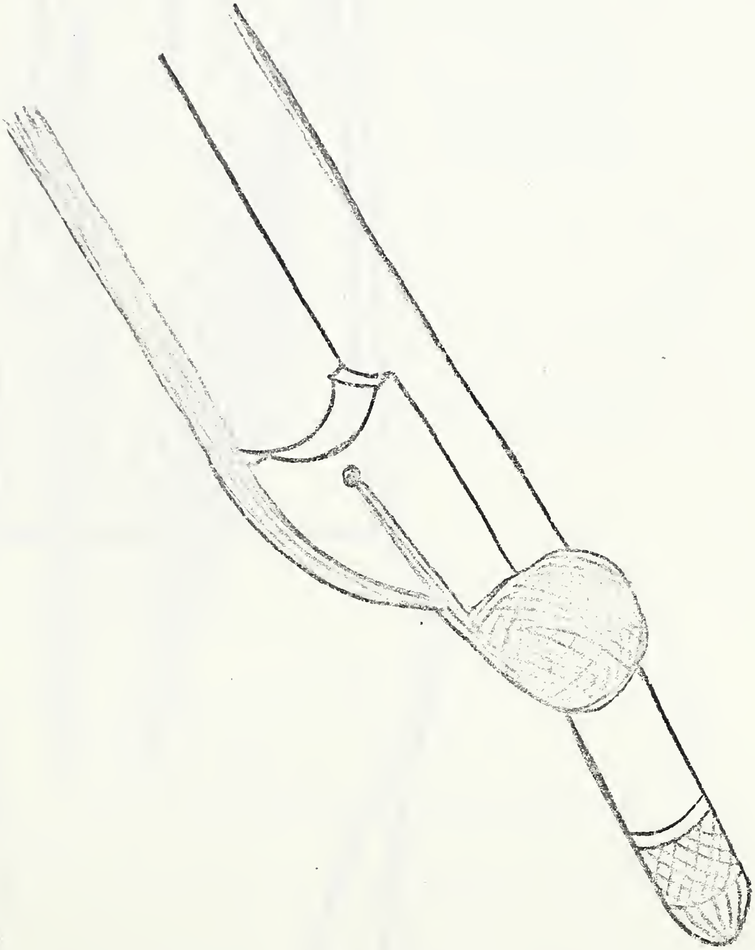
The bow of the sarangi consists of three parts: the stick, the hair, and the frog or nut. Its dimensions--stick length and diameter, bowing length of hair--correspond quite closely to those of the double bass bow (see fig. 3). The heavy stick is convex; it is usually made of ebony and tipped with ivory at both ends. The black horse hair, after passing through a hole in the stick, is fastened near the tip with a knot which is covered with fine thread. At the frog the hair passes over the slightly grooved side of the nut, a roughly triangular piece of wood, and is then fastened around the stick with thread.

The nut itself is tied to the stick with yarn which passes through a hole in the side of the nut and covers the hair ends, forming a thick knot (see fig. 6).

The tuning system of the sarangi is standardized as regards the relative pitch distribution of the strings, but may vary in absolute pitch, as in Indian music, pitch is relative. All the strings are tuned according to established intervals relative to the pitch of the highest playing string, which represents the tonic. The two other playing strings are tuned to the fifth and the lower tonic. The actual frequency range of the three playing strings is limited by constructional factors and the proportions of the instrument; it usually lies between c' and c#' for the highest string and, accordingly, between g and g#, and c and c# for the two lower strings. The tuning system of the sympathetic strings is illustrated in Figure 7. All strings except those tuned to tonic, fourth and fifth may be altered as indicated in Figure 2 (p. 6), in order to conform to the scale type required for a specific rag. A necessary adjunct to the sarangi is a small tuning key with which to tune the sympathetic strings (see fig. 8).

Ornamentation is an integral part of the sarangi, as it is of all Indian string instruments. Several motives dominate the ornamentation of the sarangi; one, represented in the form of the bridge, is the elephant, an Indian motive common in ivory carvings and associated with royalty. Another animal motive is the fish, represented in the smaller fingerboard piece of inlaid ivory, and also in the traditional tuning key which is shaped like a fish with an open mouth (see fig. 8). On

Figure 6. Sarangi bow: frog (actual size)



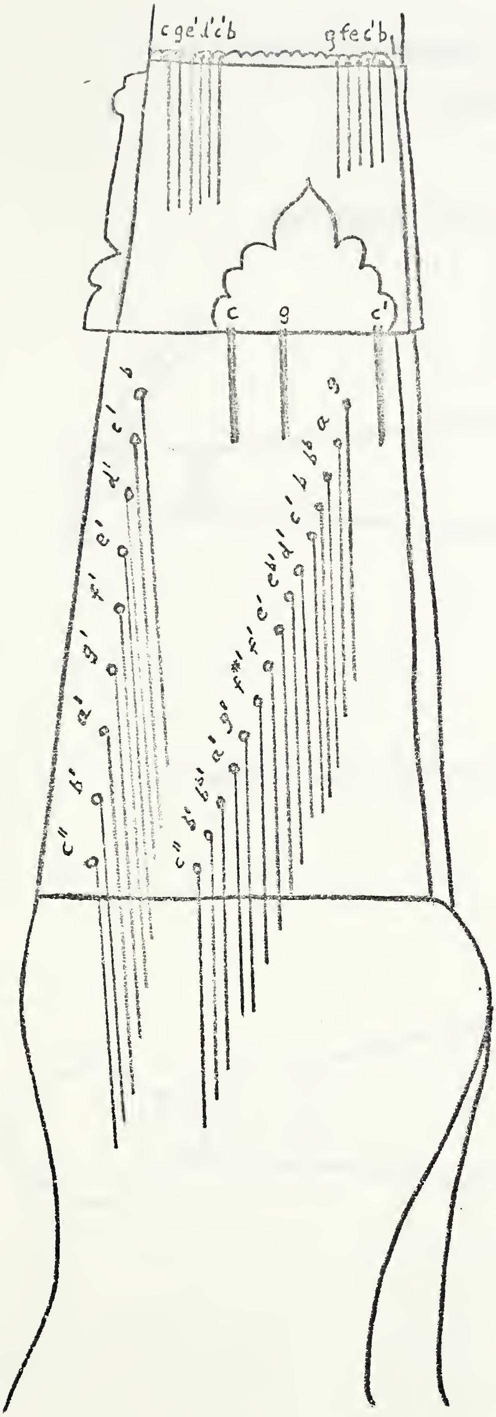


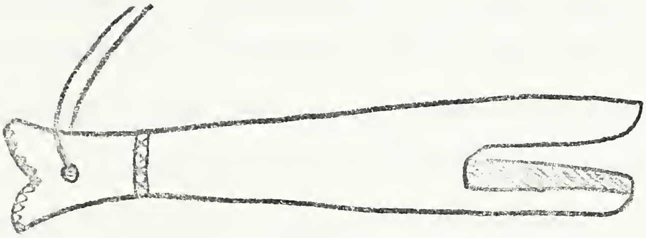
Figure 7.

Sarangi tuning system

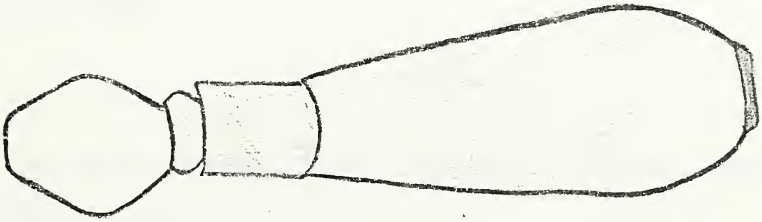
Figure 8. Sarangi tuning key

two styles

traditional type of ivory



commonly used type of brass and wood



some instruments the leather reinforcement pad at the base of the belly is embossed with two fish facing each other. The prominent place of this motive reflects the close historical association of the sarangi with the Muslim courts of Northern India, especially of Lucknow, where the fish has been a symbol of authority used by Muslim nobility.[10]

Design elements characteristic of sarangi ornamentation are derived from Mughal (Muslim) architecture. The fluted arch of the large opening for the playing strings, the minaret shape of the smaller opening and of the larger fingerboard piece of ivory inlay are most conspicuous. Both contain the elemental motive of the spear-head or horse-shoe arch, which also appears three dimensionally in the head shape of the small tuning pegs and in the standard tuning key.[11] Standard ornamentation further includes a running, leaf-like pattern carved along the neck and around the back of the sarangi. Individual instruments may be further adorned according to the maker's or the performer's preference. For instance, Pandit Ramnarain, a famous Hindu performer, has had a small image of a deity placed above the large opening of the playing strings.

Cello

The cello is conspicuously much larger than the sarangi. While

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[10] Mrs. B. Mir Hassan Ali, Observations on the Mussulmans of India, ed. W. Crooke (London and New York: Oxford University Press, 1917), p. 43.

[11] J. Burton-Page, "Hind: Architecture," in Encyclopedia of Islam new edition, vol. III (Leyden: Brill, 1967), pp. 440-452, for a discussion of Muslim architecture in India.

its neck and pegbox are made of one piece, the body is tri-partitioned into belly, back, and ribs. Further, the cello, as well as most other bowed chordophones of European origin, is constructed on the principle of symmetry according to exactly determined proportions. Except for the asymmetrical curvature of bridge and fingerboard and the two differently structured internal supports on each side of the instrument--sound post and bass bar--the cello is laterally symmetrical. The cello sound box is made of much thinner wood than that of the sarangi, hence its resonating power is far greater in spite of the absence of resonating strings. The body has an outline of the figure-eight type, with the two shoulders running in one continuous curve to which the neck bracket is at right angles. Unlike the blending curves of the sarangi bouts the curves of the upper and lower cello bouts form extending corners and the middle bouts cut deep into the body. Both belly and back are convex. The ledges of back and belly overlap the ribs. The two sound holes on each side of the bridge are f-shaped.

The neck of the cello is proportionately far shorter than that of the sarangi; it is also narrower and not very thick, with a half-rounded back. The fingerboard of ebony extends nearly half way down the belly, which more than doubles the playing area of the strings provided by the neck. The peg box contains four lateral pegs holding the frontally fastened strings; it is topped by a scroll. The four strings, originally made of gut, are today made either of gut wound with silver or aluminum, or of steel.

At the lower end, the strings are fastened to a wooden tail-piece by a knot; the tail-piece itself is tied with a gut loop to an end pin

inserted in the lower end block through the rib of the instrument. The wooden bridge has a somewhat ornamental shape, though apparently with no symbolic significance. Its four notches for the strings are regularly spaced, as are the holes in the tail-piece for their lower-end fastening and the notches at the nut above the fingerboard.

The cello bow has been concave since about 1800 (see below, p. 28). Like its convex predecessor this bow stick is far thinner and lighter as well as longer than that of the sarangi. The bleached horse hair is finer and its horizontal distribution is controlled by tight wedges at both point and frog. The tension of the bow is controlled by an adjusting mechanism at the frog. Unlike the rigid bow stick of the sarangi the cello bow stick combines flexibility with tension.

Historical Development

Sarangi

Theoretical writings on Indian musical systems are extensive, however, the investigation of musical instruments has not received comparable attention by musical scholars or historians. It is generally agreed amongst scholars that there were no bowed instruments in ancient India. The earliest known pictorial representation of such an instrument dates from the tenth century,[12] and several sources indicate that the sarangi or its forerunner was in use in the centuries following.[13]

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[12] P. Sambhamoorthy, History of Indian Music (Madras: Indian Publishing House, 1960), p. 195.

[13] Harold S. Powers, "Maqām and Raga," (1971), p. 5, A. Halim, "Origin and Evolution of Khiyal in Pak-India," Journal, Pakistan Historical Society 5 (2), (April 1957), p. 107, Arvind Parikh, "The Sitar and its Evolution," Sangeet Kala Vihar English Supplement, I, 1 (1970), p. 22.

From the seventeenth century onward the sarangi is definitely part of the Indian *instrumentarium* and some writers therefore date its introduction into India from that period.[14] There is little doubt that bowed string instruments came to India from a foreign source during Muslim rule, as a part of the string Islamic influence on Indian musical instruments and on culture in general. Whereas such plucked instruments as the sitar or sarod clearly show Persian influence, all evidence regarding the sarangi and its regional variants points towards nomadic Western Central Asia, home of most early Muslim invaders into India, where primitive forms of such bowed instruments are still in use.[15]

Traditionally, the sarangi has been performed by hereditary Muslim professionals and sometimes by low caste Hindus. The instrument's main use in the past has been to accompany vocal music, in particular the singing of courtesans. This association has given the sarangi something of a bad reputation, as expressed by one of the earliest English writers on Indian music who in 1834 called the sarangi "a modern licentious invention unknown to the ages when music breathed sacred and solemn numbers."[16] As an accompanying instrument along with the *tabla* (drums), which provides rhythmic accompaniment, it

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[14] S. Krishnaswami, *Musical Instruments of India* (Delhi: Ministry of Information and Broadcasting, Boston: Crescendo Press, 1967), p. 30; Erik Kirchheiner, *Classical Indian Musical Instruments* (Copenhagen: Musikhistorisk Museum, 1969), p. 6.

[15] Curt Sachs, *The History of Musical Instruments* (New York: Norton, 1940) p. 227.

[16] N. Willard, *A Treatise on the Music of India*, 1834 (Calcutta: Anil Gupta, 1962), p. 63.

From the seventeenth century [illegible]

[illegible]

has traditionally formed the core of any ensemble, supporting not only solo singing but also classical dance and theatre.[17] Since the last century, if not earlier, the sarangi has emerged as a solo instrument, and today it serves both functions.

Geographically, the sarangi has been in use throughout India and Pakistan; it has also been part of traditional music in Nepal, there, too, associated with low caste performers.[18] The centre of sarangi playing, now as in the past, is Northern India, in this discussion defined as the area where North Indian (Hindustani) art music is practiced.

The historical development of the instrument itself can so far be traced no further back than the nineteenth century. Descriptive and pictorial sources on one hand and organological evidence on the other confirm that the sarangi once had four playing strings and no more than fifteen sympathetic strings. The presence of a fourth large peg and the spear-shaped opening in the peg box--without function in today's sarangi--indicate the placement of the fourth string to the right of the third one, passing over the extreme right of the bridge. According to several sources this string, of metal or

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[17] Further elaboration of these traditions may be found in Charles R. Day, The Music and Musical Instruments of Southern India and the Deccan (London and New York: Novello, Ewer, 1891, reprint 1961), p. 93; J. C. Mathur, Drama in Rural India (London: Asia Publishing House, 1964), p. 109; P. Sambhamoorthy, Catalogue of Musical Instruments Exhibited in the Government Museum, Madras (Madras, Controller of Stationery and Printing, 1962), pp. 11f.

[18] A. Campbell, "Notes on the musical instruments of the Nepalese," in S. M. Tagore, Hindu Music from Various Authors (Benares, India: Chowkhamba Sanskrit Series Office, 1965), p. 288; Mireille Hellfer and A. W. Macdonald, "Sur un Sarangi de Gaine," Objets et Mondes (1966) pp. 133ff.

gut, served a drone function.[19] The early sarangi had a single set of 11 to 15 sympathetic strings threaded through the diagonal row of holes at the neck, while the upper pegbox was altogether absent[20] (compare fig. 9 and 10). Thus the additional set of 9 resonating strings at the neck and the set of 11 similar strings fastened to the upper pegbox are recent additions which enhance the tone and extend the resonating property of the instrument. One early source indicates that the hair of the bow was once loose, to be tightened by the player's hand.[21] A function of the loose bow may have been to activate the now obsolete drone string mentioned above.

Cello

The historical background of the cello bears several analogies with that of the sarangi. Like the sarangi, the cello and the violin family as a whole were initially considered socially inferior to the gamba and the viol family, for they were at first used by low ranking professionals mainly to play dance music.[22] For a considerable period,

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[19] O. Gosvami, The Story of Indian Music (Bombay: Asia Publishing House, 1963), p. 304. Krishnaswami, Musical Instruments p. 55, Willard, Music of India, p. 21, Herbert A. Popley, The Music of India (Calcutta: Y.M.C.A. Publishing House, 1950), p. 111.

[20] For an excellent early illustration see Day, Music of Southern India, p. 124. It is interesting to note that even contemporary references continue to copy the illustrations of early writers; see for instance William P. Malm, Music Cultures of the Pacific, the Near East, and Asia (Englewood Cliffs, N.J.; Prentice Hall, 1967), p. 82.

[21] Willard, Music of India, p. 64.

[22] Ph. Jambe de Fer, Epitomes Musical des Tons, Sons et Accordz, et Voix Humaines, Fleustes a Neuf Trous, Violes et Violons (Lyon, 1556), p. 63, quoted in Klaus Marx, Die Entwicklung des Violoncells und seiner Spieltechnik bei J. L. Duport (Regensburg: Bosse, 1963), pp. 77f.

Figure 9. Contemporary sarangi

Note addition of upper pegbox and use of only three playing strings.

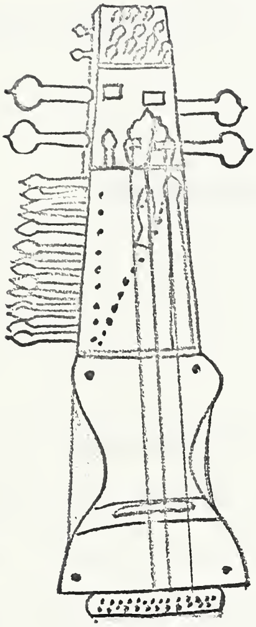
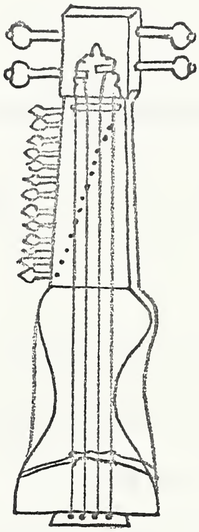


Figure 10. Early sarangi (19th century)

Note absence of upper pegbox and use of four playing strings.



the cello remained an accompanying bass instrument, especially in France, and it became a recognized solo instrument only during the eighteenth century.[23] Even today the cello, as the sarangi, serves a dual function of both solo and ensemble instrument. Further, the bow of the cello, and indeed of all early European bowed string instruments, had a convex bow stick, though of a less strongly curved type than the bow of the sarangi, until its replacement around 1800 by the modern concave Tourte bow.[24]

CHAPTER III

PERFORMANCE TECHNIQUE OF SARANGI AND VIOLONCELLO

Playing Posture

Sarangi

In accordance with the characteristic Indian custom of sitting on the floor or on a low couch or dais, the sarangi player sits with his legs crossed or both bent back to the same side, holding the instrument directly in front of him, between his knees. The sarangi, held in an upright position, is raised by being placed on its folded cloth

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[23] Leopold Mozart, in 1756, still characterizes the cello as a bass instrument, in contrast to the soloistic gamba, see Mozart, Principles of Violin Playing, pp. 11f. On the early development of the violin family as a whole see David D. Boyden, The History of Violin Playing from its Origins to 1761 (London: Oxford University Press, 1965), Chapter III.

[24] Hans Heinz Dräger, Die Entwicklung des Streichbogens und seine Anwendung in Europa (Berlin Triltsch und Huther, 1937) pp. 82ff, for a discussion of the implications of the change from a convex to concave bow stick.

cover, or, less commonly, on the player's right foot (see fig. 11). The knees, if in the legs-bent-back position, or the feet, if sitting cross-legged, support the instrument on each side. The upper edge of the neck rests against the player's left shoulder, or the upper left side of his chest. The resulting angle of the sarangi is quite steep, and its front is tilted slightly toward the player's right side. This position of the sarangi gives the player complete freedom of movement for both hands.

Cello

In its essential aspects the playing position of the sarangi corresponds to that of the cello in modern times. Sitting forward on a straight-backed chair, the performer holds the cello at an angle and tilt similar to that of the sarangi. The cello too, through the end pin, rests on the floor and against the upper left side of the player's chest. It is supported on each side by the knees, leaving both hands free. This freedom, especially of the left hand, was achieved only during the eighteenth and nineteenth centuries, while in earlier times the instrument was supported at the neck by the left hand, which restricted the playing movements of the left hand.[25]

Playing Technique

Standard reference works on Western stringed instruments can

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[25] The development of holding and playing the cello is discussed in detail by Marx, Entwicklung des Violoncells, pp. 76ff.

covers, or, [illegible] somewhat [illegible]
The Knave, or in the [illegible]
crenellated [illegible] the [illegible]
the [illegible]
side [illegible]
and [illegible]
portrayal of [illegible]
for both [illegible]

In its [illegible]
consequence of [illegible]
a stereotyped [illegible]
and [illegible]
and play, [illegible]
player's change [illegible]
both [illegible]
enclosed [illegible]
earlier [illegible]
which [illegible]

[illegible]

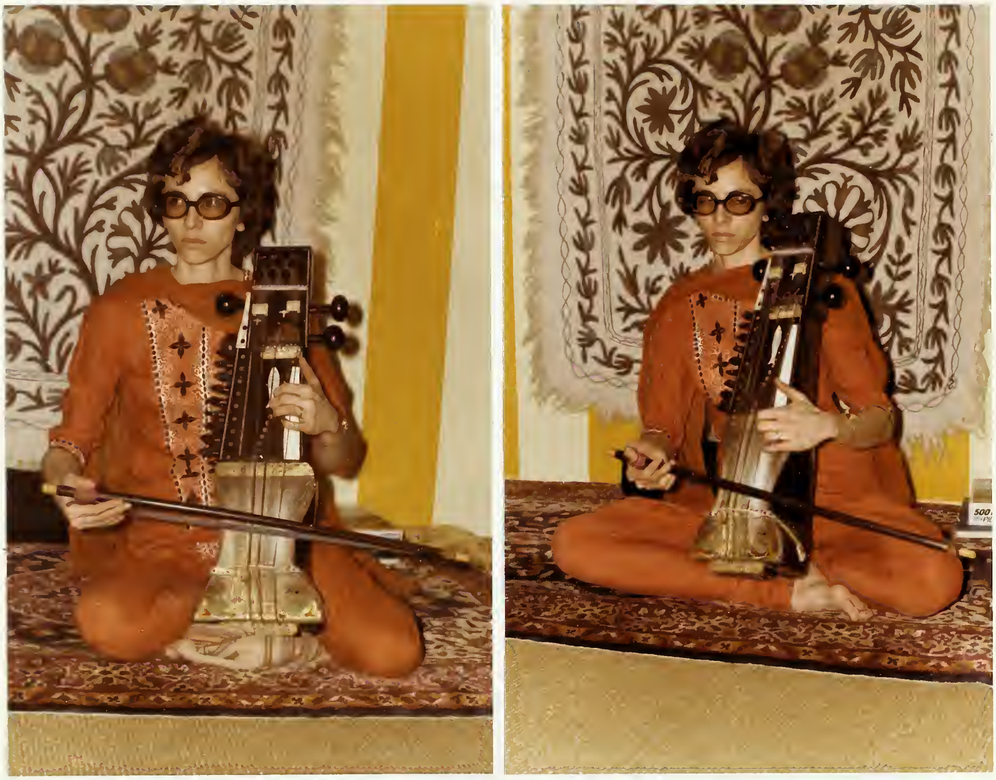
[illegible]

[illegible]

Figure 11. Sarangi playing position and bow grip

alternate sitting styles, see p. 28f

alternate bow grips, see p. 32f



form a basis for the discussion of both sarangi and cello playing. Most of these works include an historical perspective which for the cello is attainable to a high degree with the direct and indirect evidence of both written and pictorial sources dating back several centuries. (See bibliography for a selective list.) Further, the cello is one of a closely related family of stringed instruments, so that both cello and violin techniques and development have many common or parallel features. We know that the cello was developed initially as a large version of the violin and that it existed in a variety of sizes.[26] Accordingly, its early technique of playing was patterned on that of the violin,[27] even though larger dimension and different playing position of the instrument severely limited the application of violin technique. Along with the increasing use of the cello as a solo instrument, its playing technique was expanded, mainly under the influence of the gamba which had a highly developed technique of its own, proper to its large size and upright position.[28] Still, major aspects of cello playing have remained analogous with violin playing, and principles of violin playing have been, and still are,

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[26] Marx, Entwichlung des Violoncells, pp. 56ff.

[27] Michel Corrette, Méthode, théoretique et pratique. Pour apprendre en peu de tems le Violoncelle dans sa Perfection (Paris, l'Auteur, 1741), pp. 8f, 42; John Gunn, The Theory and Practice of Fingering the Violoncello (London, Printed for the Author, n.d. (1793), p. 12.

[28] Jean Louis Duport, Essai sur le doigté du Violoncello et sur la conduite de l'archet, dédié aux Professeurs de Violoncelle (Paris: Leduc, n.d.), p. 145, Marx, Entwicklung des Violoncells, p. 180.

successfully applied to the violoncello.[29]

For the playing technique of the sarangi, on the other hand, the historical dimension is largely missing, for neither are there available historical records, nor is the sarangi part of a string family, rather it is the only bowed instrument that has had a major place in North Indian art music. In the analysis of its technique we are therefore limited to practices of the present and to a cautious use of orally transmitted tradition and early sound recordings.

Bowing

Position and Movement

The sarangi bow is held with an underhand grip. The stick rests on the hand between index finger and thumb, with the thumb resting against the part of the stick thickened by the knot of yarn at the frog. The palm faces upward and the fingers are somewhat curved into a naturally rounded hand position. The two last fingers are placed between the stick and the hair of the bow and curved around the front edge of the nut. The index finger is placed around the stick so that the inside of the first joint is in contact with the upper part of the stick. The middle finger either extends in front of the index finger, touching the stick in a similar way, or it supports the stick directly from below with the inside of the finger tip (see fig. 11). In both positions the weight of the bow is supported mainly by the two middle fingers, more by the middle finger in the latter variant. The bow is

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[29] The best contemporary example is Ivan Galamian's principles of Violin playing as applied to the cello by Leonard Rose and his school.

kept in balance by an interplay between the fingers and the thumb, but no great pressure is exerted by either.

The cello, today, is bowed with an overhand grip, although the underhand grip used to be standard until the seventeenth century for the cello as for all early European stringed instruments played in an upright position. The principal difference between the underhand grip of the sarangi bow and that of the early cello or the gamba derives from the weight of the bow and the construction of the nut. The sarangi bow is considerably heavier than either a viol or a cello bow, and the distance at the nut between stick and hair is much greater. The whole hand is needed to hold the sarangi bow rather than just fingers and thumb which hold the gamba and early cello bow. As such, the sarangi bow grip is more comparable with the underhand or "German" grip of the double bass bow, which is also rather heavy and short. But unlike double bass bowing which requires both speed and pressure, sarangi bowing requires little more than the weight of the bow on the strings to make the strings sound, since they are so much shorter and higher pitched. Hence its grip serves mainly the function of holding and guiding rather than that of applying pressure on the strings or directional force on the bow.

The movement of the sarangi bow is at right angles to the string, a principle followed as well for all Western stringed instruments. Generally the bow stick is tilted downward toward the bridge, but some players tilt it toward the fingerboard. The latter position corresponds to cello bowing as practiced since the eighteenth century.[30] The place of

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[30] Marx, Entwicklung des Violoncellspiels, p. 160.

contact of the bow with the string remains relatively constant in sarangi bowing--about one and one-half to two inches from the bridge--in contrast to the wide range of positions between bridge and lower end of the fingerboard employed in cello bowing.

In the basic bowing movement for the sarangi the entire length of the bow is drawn across the string. The main impetus for both pushing and pulling motion comes from the lower right arm, with both elbow and shoulder acting as pivots. The upper right arm provides a supplementary impetus especially on the upstroke; it also guides the bow in string crossings. The function of the wrist in sarangi bowing is limited to a small equalizing motion which accompanies the bow change. Because of the weight of the bow at the frog, a somewhat greater wrist movement is required when changing from up to down stroke. Fingers and thumb remain in a more or less fixed position throughout both up- and down-bow movements.

In comparison, the movement of cello bowing consists of a more even distribution of muscular control. While the leading role of the lower arm was emphasised until the nineteenth century,[31] today, the upper arm provides a continuous impetus, so that the main pivot of the bow arm tends to be the shoulder rather than the elbow. Both wrist and finger movements are essential for the change of bow as well as for string crossing. Generally, it is the cello bow movement of the eighteenth and early nineteenth century[32] that corresponds more closely to that of the sarangi.

Another characteristic of sarangi bow movement is the general

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[31] Josef Eckhardt, Die Violoncellschulen von J. J. F. Dotzauer, F. A. Kummer und B. Romberg (Regensburg: Bosse, 1968), p. 41.

[32] Best described by Duport, Essai, pp. 159f.

absence of accompanying noise caused by the physical contact of bow and string. This contrasts with cello bowing and Western string playing in general where a certain amount of noise is accepted as an inevitable part of good articulatory bowing.

Tone Production and Bow Strokes

Neither tone production nor bow strokes receive much analytical attention by sarangi players and teachers. Yet there is an accepted sarangi tone range produced by the bow and a more or less standard "repertoire" of bow strokes. Sarangi tone production can best be characterized as even, relaxed, and resonant. The three main factors in tone production: pressure, speed, and sounding point remain relatively constant in sarangi bowing. The sounding point is quite close to the bridge. The pressure on the string consists mainly of the weight of the bow which can be manipulated by means of the underhand grip with relative ease. The bow arm or the hand itself exerts hardly any pressure on the bow, except to counteract the loss of weight towards the point of the bow. This provides even pressure throughout the length of the bow. The sarangi bow moves at a constant speed, ranging from slow to medium; the preferred bow speed is rather slow. In accordance with the physiological condition of the underhand bow grip there is a general preference for upstroke bowings.[33] In sarangi bowing, the slow speed and lack of arm pressure result in a balanced

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[33] Much like in gamba and viol bowing, see N. Dolmetsch, The Viola da Gamba, its Origin and History, its Technique and Musical Resources 2nd ed. (London: Hinrichsen Edition Ltd., 1968), pp. 45ff.

response of the numerous resonating strings, so that the tone of the playing string receives constant reinforcement but is never blurred by a sudden burst of resonance.

Dynamics, another dimension of tone production, play hardly any part in sarangi bowing. The volume of sound is usually constant, at the level of medium loud (mf). If two dynamic levels are required, as in accompanying versus solo passages, a change in overall volume may be effected by an increase in the bow speed and a corresponding lowering of the sounding point. Gradual changes in volume are not a part of sarangi bowing. The other dynamic element in sarangi bowing occurring in rhythmic passages is a note accented, or rather emphasized, by an increase in bow speed. This type of accent is usually executed at the point of the bow in an upstroke.

Special sound effects have no place in sarangi playing. Only one virtuoso, the late Bundu Khan, is known to have experimented with a rhythmic knocking of the fingers on the body of the instrument, creating a drum-like beat which, however, stood apart from the actual sound of the sarangi.

The basic bow stroke of the sarangi is legato. The whole bow is drawn across the string at a slow speed to produce what Western string playing tradition has termed the _son filé_, the "long sustained stroke," carrier of "the cantabile melody line."[34] This stroke may be used to sustain one long note or to play up to a multitude of short ones. Often the same stroke may encompass less than the entire length of the bow,

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[34] For a description of the _son filé_ see Ivan Galamian, _Principles of Violin Playing and Teaching_ (Englewood Cliffs, N.J.: Prentice Hall, 1962), p. 104, and Leopold Auer, _Violin Playing as I Teach It_ (New York: Frederick A. Stokes Co., 1921), pp. 78ff.

and is then concentrated in the upper half. The bow change between such legato strokes is hardly audible, resulting in a continuous, unbroken line of sound.

Among short, articulatory bow strokes, the short legato stroke, usually encompassing two notes, is most common. Détaché bowing, consisting of separate strokes for each note, is used intermittently rather than in continuous succession. A short series of separate notes is often combined in one bow with a portato or _louré_ stroke. The only staccato-like bowing on the sarangi is a type of _martelé_ or "solid staccato" on the string, played either in succession on one bow or separately, usually at the point. There are no "off the string" bowings in sarangi playing.

In cello playing, both tone production and bowing patterns show a much greater diversity. While the cello has a characteristic type of tone production there is ideally no one constant cello tone, but a whole range of them. Based on the principle of the balance between bow speed, pressure, and sounding point, two main sound types are produced. One relies mainly on speed, using much bow with little pressure and a relatively high sounding point, the other one relies mainly on pressure, using a slow bow speed and a low sounding point. Both sound types share a more intense character than the sound of the sarangi, caused by the greater muscle tension in the bow arm which is needed for both pressure and speed.

A further dimension of tone production on the cello is provided by the extreme sound contrasts produced as "special effects" by bowing very close to the bridge (_sul ponticello_) or very far from it (_sul_

tasto), touching the string with the stick of the bow (col legno) and finally, substituting plucking for bowing (pizzicato).

The dynamic range of cello bowing is infinitely greater than that used in sarangi playing. Both speed and pressure of the bow are varied singly or in combination to produce sounds ranging from extremely soft to extremely loud. In addition, any two dynamic levels may be connected within one or several bow strokes. While sarangi bowing uses just one type of accent, several types of accent are produced on the cello by increasing either the pressure or the speed of the bow, or both. Bow pressure may also be applied before the start of a note to be accented to "pinch" the string.[35] Cello bowing further differentiates not only between up and down strokes but also between various areas within the single bow.

Among bow strokes, the legato or son filé bowing is important to cello playing as it is to Western string playing in general. But whereas legato is the mainstay of sarangi bowing, in cello bowing the category of short articulatory bow strokes is of at least equal importance. The basic stroke among these is the détaché and its variants. In addition, there are the many staccato strokes, both on and off the string, encompassing one or several notes to one bow. An infinite variety of combinations[36] or bowing patterns further distinguishes cello bowing from sarangi bowing. Unlike sarangi technique,

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[35] As described in Galamian, Violin Playing, p. 71.

[36] "Beyond the 4000 bowings of Sevcik." see A. Moser and H. J. Nösselt, Geschichte des Violinspiels (Tutzing: Hans Schneider, 1967), p. 312.

cello technique isolates and categorizes bow strokes and patterns to be practiced as a separate skill.[37]

Left Hand

Position and Movement

Sarangi

On the sarangi the playing strings are stopped from the side with the finger nails rather than being pressed onto the fingerboard with the finger tips. This fingernail technique has its parallels among several folk fiddles of Europe[38] and apparently was characteristic of violin playing in Poland in the early sixteenth century.[39]

The playing strings on the sarangi are raised from the fingerboard about one quarter inch, therefore when the fingers are placed on the fingerboard the natural contact point with the string is the base of the nail. Since the strings are quite short and under relatively high tension they resist the sideways pressure without being dislocated.

The principal playing string is the gut string highest in pitch and farthest to the left of the neck (subsequently called the "c"

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[37] For details on bowing strokes and patterns see Marx, Entwicklung des Violoncellspiels, pp. 168ff, and Auer, Violin Playing, p. 69f.

[38] e.g. the Wendish fiddle Husla and the Swedish lyre Tannenharfe, see Francis W. Galpin, A Textbook of European Musical Instruments (London: Ernest Benn Ltd., 1956), p. 136.

[39] Described by Martin Agricola in his Musica Instrumentalis Deudsch, as discussed in A. Koczirz, "Uber die Fingernageltechnik bei den Saiteninstrumenten," Studien zur Musikgeschichte: Festschrift für Guido Adler zum 75. Geburtstag (Wein: Universal-Edition, 1930), pp. 166ff. This technique shows interesting parallels to the sarangi and is treated in detail by Otto Andersson, in The Bowed Harp, (1930).

string). The playing range of the left hand extends two octaves down the "c" string to a point about four inches from the bridge, moving mainly within the length of the neck. For the two lower strings, playing is generally confined to the upper part of the neck.

The standard playing position of the left hand is that assumed for the lower part of the "c" string. The left hand approaches the strings at a right angle; the fingers are curved so that the nails are in a vertical position, the finger tips touching the fingerboard. The back of the hand is level with the arm. The thumb rests loosely against the side of the neck. In sarangi playing only three fingers are used for playing; the little finger being relatively short and weak is usually kept curved alongside its neighbour, or, by some players, held straight up. Very rarely players may use the little finger for playing fast passages.[40]

There are two types of playing movements affecting the entire left hand: the horizontal movements across the strings and the vertical movement along each string. The basic playing position for the "c" string is only slightly altered for the playing of the two lower strings. In order to reach the "g" string across the set of sympathetic strings immediately to the right of the "c" string the arm is raised slightly at the elbow and the fingers are somewhat more stretched out. To play on the lowest string, the wrist is bent slightly to allow the hand to reach even farther to the right. Since the fingers are placed beside, rather than on the string, every string

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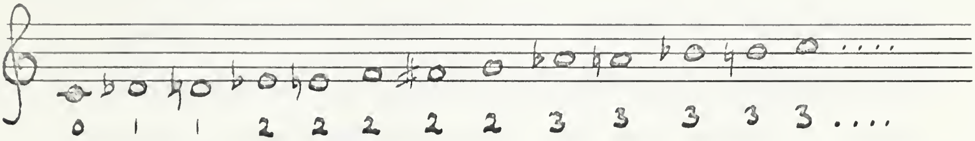
[40] One player was the late Nathu Kahn of Pakistan, who was left-handed.

change requires the fingers to be raised in order to clear the string or strings in between the two playing positions.

In the vertical movement along the string the left hand remains in the same position throughout the lower half of the string, gliding along the side of the neck until it reaches the shoulder of the instrument's body. The hand then moves down the belly while the base of the thumb remains hinged lightly to the side of the neck and the lower arm retains its angle. As the very highest register of the sarangi closest to the bridge is rarely used, there is no standardized technique for it. This corresponds to the way the highest register of the cello used to be treated until modern times.

The most significant and interesting point about the vertical movement of the left hand is the absence of fixed positions. The hand glides continuously rather than moving from one fixed position to another. This relates directly to the system of fingering used in sarangi playing which is based on the principle of minimal distance in shifting and maintaining an unbroken connection between neighbouring tones. Hence each finger plays several notes in succession and is succeeded by its neighbour only once throughout the length of the string, so that each of the three fingers used covers one portion of the string. The actual range of notes covered by each finger varies slightly between different traditions of sarangi playing; the one most commonly used is illustrated in Figure 12. This glissando fingering system is based on the gliding of each finger from note to note. This shifting process is continuous, for

Figure 12. Fingering system of the sarangi (compare fig. 13, p. 49)



a glide is required for every change in pitch except where the boundary of two finger domains is crossed. There is practically no idependent finger movement in sarangi fingering, for every glide is reinforced by a sideways motion of the hand and to a lesser extent of the lower arm, so that fingers, hand, and lower arm move essentially as one unit.

Within this overall pattern the shifting process of sarangi playing is highly complex, for it includes numerous alternative ways of connecting one note with another. There is a basic inventory of shifts, each of which can be used in isolation or in combination with others:

(a) Shifts directly connecting two notes: basic among these is the fast slide in which the finger moves so fast that the slide is all but inaudible and the two notes follow each other with a minimum of intermediary sound. At the other extreme is the slow slide in which all intermediate pitches are deliberately made audible. This slide is most often used to connect two long note values. Between these two extremes there are shifts in which the glissando, but no definite intermediate pitches, is audible.

(b) Shifts touching specific intermediate pitches: usually one, but also more than one scale degree between the two notes connected

by the shift are touched in passing but without stopping the gliding motion of the finger.

(c) Shifts touching a specific pitch outside the shift interval: here two gliding movements in opposite directions are combined; either the slide starts in the direction of the note to be shifted to, goes beyond it and returns to that note, or the glide starts in the opposite direction of the shift, touches a specific pitch, and returns, passing the starting note, to reach the final note.

(d) Double shifts: the finger slides to the note to be shifted to, returns to the starting note and completes the shift in a kind of zig-zag motion. This kind of shift is very fast and usually covers intervals up to a third.

In sarangi playing another type of shift is employed for repeated notes. These are almost invariably played legato on the same bow, rather than detached by separate bow strokes, so that a very fast shift to some other pitch and back is used to separate them. In this type of shift the glissando is all but inaudible. There are two categories of shifts for repeated notes:

(a) Shifts touching a pitch below the repeated note: this is by far the most common way of separating or articulating repeated notes. The intermediary pitch, about a semitone below the repeated note, is touched so briefly that it is not distinctly audible. In a less frequently used version of this shift a definite pitch up to a third or fourth below the repeated note is actually sounded very briefly to separate the two equal pitches.

(b) Shifts touching a pitch above the repeated note: in this direction the shift usually touches a definite pitch and covers a

distinctly audible interval, ranging between a second and a fourth.

Pitch movement by the use of different fingers within the same hand position has a very limited place in sarangi left-hand technique. It is confined to the use of two neighbouring fingers, usually index and middle fingers, and employed most often in fast pitch progressions. A most characteristic use of this method of fingering occurs when a long note is held by the middle finger and very briefly, often repeatedly, interrupted by a momentary lifting of the middle finger to sound the next lower scale degree stopped by the index finger.

Finally, two general points need to be made regarding the left hand movement of sarangi playing. The emphasis in shifting is on the movement rather than the exact pitches touched. Excepting deliberately slow shifts, sarangi finger movements generally are very fast and intermediary pitches touched during shifts are sounded so briefly that they are often barely audible. The other point concerns the role of the bow in left-hand technique. While methodological considerations necessitate separate discussion of bowing and left-hand technique, this should not obscure the fact that bowing, as the means of producing all sounds, is primary whereas left-hand technique, as the means of altering the pitch of the sound, is, in a sense, secondary in that it always occurs in conjunction with bowing. In all bowed string playing there is a certain amount of mechanical adjustment between bowing and left-hand movement, mainly falling in two areas: bowing is adjusted to the varying string length caused by left-hand stopping of the string, while left-hand fingering is adjusted to the varying bow speed and pressure. In sarangi playing, additional deliberate bowing adjustments are made

in conjunction with left-hand movement, either modifying or reinforcing aspects of left-hand technique. Shifts, particularly, are affected by subtle changes in the weight given to any note or glide. Also, a bow change is often inserted immediately before or after a gliding motion by the left hand. Beyond these observations only a detailed time-motion study could yield an accurate description of the complex interaction between bowing and left hand; suffice it to mention here that it does play a role in sarangi playing.

The continuous vibrato of Western stringed instruments has no place in sarangi playing. The standard sarangi tone is constant in pitch; however on specific pitches of certain rāgs oscillation occurs. The finger in that case moves in a deliberate, slow vibrato, audibly oscillating between the particular scale degree and a definite, slightly higher or lower pitch. Open strings are used freely in sarangi playing, since their sound differs little from that of a note stopped and held constant by the hard fingernail.

Cello

In cello technique, the position of the left hand corresponds in its basic elements to the position used in sarangi playing. The hand approaches the highest string at a right angle, the back of the hand is level with the lower arm, the fingers are curved, touching the strings at an almost vertical angle, and the thumb rests loosely against the neck. The horizontal movement of the left hand across the strings, too, is analogous to that used in sarangi playing. While the hand moves across to the lower strings the elbow is raised and the

wrist curved slightly in order to maintain the same basic hand position. The fingers are somewhat more outstretched and touch the lowest string at a more acute angle. However, the fingers are not raised as they are in sarangi playing, when moving from one string to the other.

The vertical left-hand movement along the string corresponds to the sarangi technique within the range of the "neck positions." The lower arm moves down the length of the neck while the position of the left hand remains the same until the instrument's shoulder is reached. As in sarangi playing, the thumb then acts as a hinge at the base of the neck and the hand and fingers extend further downward. However, this extension does not cover the playing length of the string, as the cello's dimensions are so much larger than those of the sarangi and, beyond that, the playing range of one string is wider, extending to three octaves rather than two of the sarangi. Beyond the extended neck positions the movement of the left hand continues along the string with the thumb now laid across two strings. Because of the increasingly stretched-out position of the left lower arm, the left hand assumes an increasingly acute angle to the string, and the fingers a more vertical position.

Notwithstanding the common elements discussed, cello technique differs from sarangi technique in its basic conception of vertical left-hand movement. This conception is founded on the principle of successive finger movement and of independent movement of hand and fingers, contrasted with the sliding movement underlying sarangi left-hand technique. The "position" is the basic unit of left-hand movement in cello playing. In the neck positions, all four fingers are

used equally to stop four scale degrees, each one semitone apart. The distance between second and third finger may be extended to span one whole tone, either by an upward movement of the second finger or by a downward movement of the remaining fingers. In the thumb and extended neck positions the fingering system changes in adaptation to the much reduced distance between scale degrees. Because of its short size and weakness the fourth finger is not used, while the remaining three fingers are set down either a semitone or a whole tone apart. The thumb provides another stopping point a semitone or whole tone lower than the index finger. Thus in the lower positions, which form the mainstay of cello left-hand technique, the fingering is basically chromatic and covers a minor or a major third; in the higher positions the fingering is basically diatonic and covers either a perfect or an augmented fourth.

The shift in cello technique extends the tonal movement beyond the limit of one position by moving the hand into a different position. Its primary function "is to connect two positions, not two notes."[41] As a general rule, the position change is ideally inaudible. Audible shifting is avoided by a fast, well-timed movement of the lower arm and hand, by a momentary lightening of bow pressure, and frequently by finger substitution during the shift. Another means of concealing the glissando sound of a shift is to place it in consort with the rhythmic or melodic grouping of notes.[42] However, cello technique also requires

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[41] G. Bekefi, "Practise Pointers for Cellists," Instrumentalist, 14: 42 (Dec. 1959), p. 44.

[42] Advocated as early as the 18th century by Leopold Mozart, Principles of Violin Playing, pp. 138ff.

the occasional glissando or portamento position change employed mainly to connect long note values. Here, three main types of shifting may be identified:[43]

(a) The direct slide: this slide connects two notes without interruption and is usually executed by the same finger.

(b) The overslide: a shift executed by two fingers. It begins with a slide starting from the first note, and when the desired position is reached a subsequent finger comes down on the second note, thus interrupting the slide short of that note.

(c) The underslide: the converse of the overslide, this shift also requires two fingers. The finger stopping the first note is replaced by a subsequent finger which slides directly to the second note.

Today a constant vibrato is part of cello left-hand technique. The vibrato is produced by a movement centered in the hand and involving the lower arm as well as the playing finger. It may vary in both speed and width, but is always faster and narrower than the infrequent sarangi vibrato or oscillation (see p. 45).

The present standards of cello left-hand technique date back to approximately 1800.[44] In particular, the concepts of position and shifting in terms of position change probably developed only during the eighteenth century.[45] There is every indication that the early shifting the occasional glissando [illegible]

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[43] Slide terminology based on Galamian, Violin Playing, p. 27.

[44] See Duport, Essai, pp. 240ff. The first detailed description of cello shifting technique by Davidoff dates only from the nineteenth century, see W. Pape, Die Entwicklung des Violoncellspiels im 19. Jahrhundert (Saarbrücken: 1962), p. 88f.

[45] Corrette, Méthode, pp. 30ff.

[illegible]

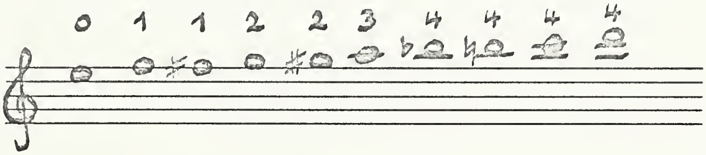
[illegible]

[illegible] century, [illegible] Jahrhunderts (Saarbrücken [illegible]

[45] Corrette, Méthode, [illegible]

technique of the violin family resembled that of the sarangi in its use of "several small shifts" executed by the same finger, even though all fingers were used in first position. A contemporary description by Mersenne indicates the following fingering for the notes covering an octave above the open "e" string of the violin. (fig. 13)[46]

Figure 13. Early fingering system of the violin family, according to Mersenne (compare fig. 12, p. 42)



The explanation for this type of shifting (or "crawling" as some writers call it) is seen in the need, at that time, for the left hand to hold the neck of the instrument, which made large shifts of the whole hand impossible. As changes in the holding position of both violin and cello freed the left hand, the present-day method of shifting developed.[47]

The continuous vibrato is of an even more recent origin, although vibrato was used as a means of heightened expression as far back as the eighteenth century. Even many nineteenth-century cello masters insisted

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[46] M. Mersenne, Harmonie Universielle (Paris, 1636), book IV, p. 182; see also D. Speer, Grund-richtiger Kurtz-leicht-und Nöthiger Unterricht der musicalischen Kunst, (Ulm: 1687), p. 190, both cited and discussed by Marx, Entwicklung des Violoncellspiels, p. 134f.

[47] Marx, Entwicklung des Violoncellspiels, p. 135f; Boyden, History of Violin Playing, p. 155f.

on only its occasional use.[48] It is only since the twentieth century that the continuous vibrato is standard in both solo and ensemble playing.[49]

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[48] Pape, Entwicklung des Violoncellspiels, p. 159; Eckhardt, Violoncellschulen, p. 122f.

[49] David Boyden, "Violinspiel," in Die Musik in Geschichte und Gegenwart (Kassel: 1966), vol. 13, p. 1780.

Comparative Summary of Playing Techniques

category	sarangi	violoncello
1. Tone production		
a) standard sound	even, medium volume (sympathetic string resonance)	even, full sound (sound box resonance)
	noise-free	slight noise tolerated
	little pressure on bow	muscular pressure on bow
	slow bow speed	medium bow speed
b) variation in sound	hardly any deviation from standard sound, except for temporary increase or decrease of bow pressure	standard sound represents middle of a continuum of bow speed and location producing a wide range of dynamics and tone quality
c) special sound effects	none	extremes of sound variation, including sul ponticello, sul tasto, col legno, pizzicato and harmonics
2. Bow strokes		
a) cantabile	singing, continuous son filé	singing, continuous son filé
	inaudible bow change desireable	inaudible bow change desireable but less crucial, as bow change generally occurs with pitch change
	bow change independent of pitch change	
b) articulatory	small repertoire	vast repertoire
	on string only (détaché, staccato)	on and off string (détaché, staccato, etc.)
c) patterns	small repertoire	vast repertoire
	no on and off string combinations	on and off string combinations
	very few tied and separate combinations	tied and separate combinations
	no across-string patterns	across-string patterns
3. Pitch control		
a) intonation	accuracy crucial	accuracy less crucial in extremes
	some idiosyncratic treatment	some idiosyncratic treatment
b) vibrato	standard pitches without vibrato	constant vibrato medium to fast, narrow pitch deviation
	on exceptional pitches a slow, wide shake (oscillation)	
4. Pitch change		
a) by finger alternation (vertical finger movement)	rarely used, occurs in few specific positions or fast alternations of pitches	primary method of pitch change
	no positions	position is basic unit of pitch change
		arpeggios, double stops
b) by glissando	primary method of pitch change	standard shift avoids audible glissando
	wide variety of simple and composite glissando patterns	deliberate glissando rare
	glissando speed usually fast, but also deliberately slow	glissando speed medium

CHAPTER IV

TEACHING PRIORITIES AND STANDARDS OF EXCELLENCE

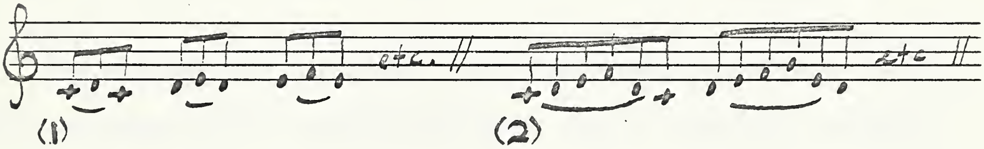
An important avenue towards understanding the character of an instrumental idiom is to consider the emphases that are applied in the teaching of this idiom. These priorities again are derived from, or at least closely related to, the standards of excellence in performance of the instrument. Teaching materials such as "schools," studies and exercises are obviously most useful sources for determining teaching priorities. Even a scarcity of such materials, or their inconsequential use, is indicative of the amount of emphasis given in particular to technique in the teaching of that instrument.

In sarangi teaching there is little emphasis on the acquisition of technique for itself. Technique, as an analytical construct apart from the music it serves to create, does not exist. Thus, elements of playing technique are not generally isolated from their musical context. What most teachers do use is a certain amount of "exercise" material which performs a technical and a musical function at the same time. As all sarangi teaching is oral, these teaching materials, too, are passed on orally, and may be varied by the student. They are in the category of exercises in sequence or pattern form and serve the technical purpose of improving left-hand dexterity while at the same time providing the student with basic units of musical improvisation. For the purpose of description they can be grouped in four categories:

(a) Scales (sapāt tān). These are played in a straight up and down pattern, encompassing mainly the central octave (c' or b to c") to which higher notes are added one at a time, usually up to the fifth (g"). The remaining notes of the upper octave (a" to c") as well as those of the lower octave (from b to c) are included less frequently. The emphasis in sapāt tān is on clarity and speed.

(b) Sequences (alankār, palte). These are nuclear patterns encompassing two or more notes within a narrow intervallic range. Starting from c', they are repeated sequentially, usually up to g". The remainder of the pitch range of the instrument is covered only occasionally. The emphasis is on clarity and variety of pattern. (see fig. 14).

Figure 14. Two representative sequence exercises (alankār, palte)[50]



(c) Repeated notes (bal). Articulated by the left hand within a legato bowing, two, or several repeated notes are played either in a scale pattern with a range as in (a) or within a nuclear pattern repeated sequentially as in (b). The emphasis is on speed, clarity and articulation as well as on variety of pattern. (see fig. 15).

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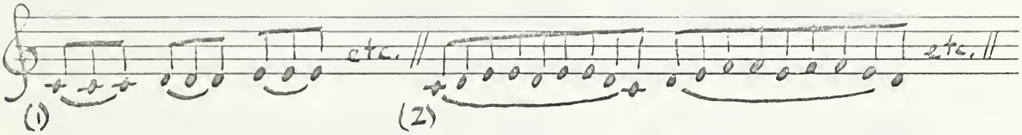
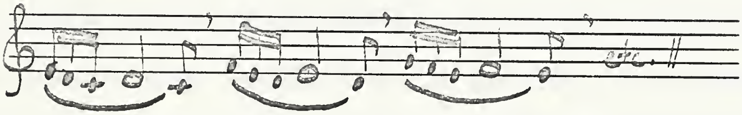
[50] These and the following examples are selected from the teachings of Pandit Ramnarain and Ustad Hamid Hussain.

Figure 15. Two repeated-note exercises (bal)



(d) Ornamentation (gamaka, kan). Any one of the most common "turns" or changing-note patterns may be built into a nuclear pattern and repeated as in (b). The emphasis is on clarity, speed and expressiveness (see fig. 16).

Figure 16. Ornamentation exercise (gamaka, kan)



While these four categories represent general priorities, there are, of course, other teaching materials used by individual teachers. All these materials tend to emphasise left-hand accuracy and speed of shifting. Their mastery is also meant to improve the speed and accuracy of the complex shift types used mainly to connect longer note values (see pp. 42ff). Thus the student is told to practise some fast sequences as a preparation for practising slow parts of a piece. However, regardless of their importance in sarangi playing, the shift types themselves are not usually isolated for practise.

Conspicuously absent are teaching materials or exercises in the area of bowing technique. The need for a good and steady tone may

be emphasised by the teacher, but neither tone production nor bowing strokes or patterns are studied as such. The various left-hand patterns discussed above are mostly played with a legato bowing, generally one nuclear pattern to a bow, or, in the case of scales, between four and eight notes to a bow, without emphasis on regularity of the bowing pattern.

The relative scarcity of teaching materials for the sarangi is related, to some extent, to factors other than musical ones. With few exceptions, the sarangi player has been a professional raised by, or among those who taught him, and thus he learned much of his music in a process analogous to that of learning one's mother tongue. The more formal learning process of the student from outside this musical context, especially the amateur, is relatively new to instrumental art music and this may well affect the future development of teaching materials for the sarangi, as for other instruments.

Teaching materials for the cello exist in written form from the mid-eighteenth century, the period in which amateur playing was coming into its own.[51] Early tutors and exercises contain material for developing left-hand dexterity (scales, arpeggios, sequences, double stops) as well as bowing strokes and patterns, including both on- and off-string bowings. In the nineteenth century the scope of teaching materials was greatly expanded, and today there is hardly an element of cello technique which has not been included in some work of cello pedagogy.

While the standards of excellence applied to both sarangi and

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[51] Boyden, History of Violin Playing, p. 357f. Examples of such early cello tutors are Dominique Bideau, Grande et Nouvelle Méthode Raisonnée pour le Violoncelle (Paris: Nadermann, 1802), Robert Crome The Compleat Tutor for the Violoncello (London: C. & S. Thompson, 1765), Duport, Essai.

cello playing share basic features, they are substantially different from each other. Expressiveness and virtuosity are recognized by players of both instruments as two complementary facets of performance technique, hence standards of excellence can best be discussed in terms of these two concepts.

Common to both instruments are certain fundamental prerequisites, conceived within their respective cultures, including a good tone, good intonation, accuracy of pitch movement and good control over bow movement and bow change. The most important common feature, however, lies in the area of expressiveness: there is an emphasis on a vocal ideal relevant in particular to standards of tone production and bowing. The sarangi player aspires to sound like a human voice,[52] and for centuries cellists have been exhorted to play "gesangreich", (full of song) in order to approach the ideal of the human voice.[53] Standards of cantabile bowing as well as of phrasing are also conceived of in terms of a vocal model in both sarangi and cello playing.[54]

In other respects, standards of excellence differ between the two instruments. In sarangi playing, expressiveness, based on the vocal ideal, is given clear precedence over virtuosity. There is a certain emphasis on tone quality--a "sweet," relaxed sound--and, to a lesser extent, on articulate phrasing--the bow is to "speak." But most of

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[52] S. K. Chaubey, Musicians I have Met (Lucknow: Prakashan Shaka, 1958) p. 84, Gosvami, Indian Music, p. 304.

[53] T. T. F. Dotzauer, Violonzell-Schule (Méthode de Violoncelle), (Mainz: Schott, 1832), p. 57; see also Bideau, Méthode, p. 34; M. Eisenberg, Cello Playing of Today (London: The Strad, 1957), p. 11; Cherniavsky, "Casals's Teaching," p. 398, for similar statements.

[54] For examples of performers-teachers espousing such a model for sarangi and cello bowing respectively, see Pandit Ramnarain, lesson notes, and Eisenberg, Cello Playing, pp. 140ff.

all it is subtleties of pitch movement--a wide range of shift or glissando types and their combinations--which are considered essentials of a high standard of performance. The only area in which virtuosity is valued directly is related to these features of pitch movement; it covers speed and accuracy for the different shift types and their combinations. Standards of excellence in sarangi playing do require general left-hand dexterity, including the control of fast pitch movement. In the area of bowing, however, the concept of virtuosity is virtually non-existent.

In cello playing, standards of excellence relate more directly to virtuosity, though expressive features are essential as well. Among the latter, aspects of tone production are primary; they include tone quality--a large, full tone--as well as a wide range of dynamics, tone colour and vibrato. Less important is glissando control. The concept of virtuosity covers both left-hand and bowing technique. Left-hand dexterity applies mainly to fast pitch movement and requires speed, accuracy and a clear separation of pitches ("clean" shifts). Bowing dexterity requires agility and articulation in a wide range of bow strokes and patterns both on and off the string.

In an historical context, standards of excellence in cello playing have undergone modifications in line with the changing ideals of string playing in Western music. Thus, in eighteenth century string playing, more emphasis was placed on "articulated" bowing[55] and on the expressive

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[55] Francesco Geminiani, The Art of Playing the Violin, quoted by Sol Babitz, Differences between 18th Century and Modern Violin Bowing (Los Angeles: Early Music Laboratory, 1970), p. 9; for detailed statements see also Mozart, Principles of Violin Playing, p. 74 and Boyden, History of Violin Playing, p. 502.

function of the bow in general.[56] The growing importance of virtuoso bow strokes and of an extended staccato technique during the nineteenth century[57] led to the dual emphasis on expressive and virtuoso aspects of bowing current today.[58] Likewise, the expansion of left-hand technique since Duport led not only to a greater emphasis on its virtuoso aspects in the nineteenth and twentieth centuries,[59] but also to the growing importance of the vibrato, an expressive aspect of left hand technique.[60] At no time, however, did cello techniques gravitate towards glissando or shift types as in sarangi playing, and bowing has always been essential as a means of articulation. An observation of standards of excellence in cello playing from an historical perspective shows that their development has been consistent with a basic concept of cello playing, resulting in modification more in emphasis than in substance.

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[56] Emphasised for instance by Mozart, Principles of Violin Playing, pp. 22, 110.

[57] For instance by Dotzauer and Popper, the latter emphasizing off string staccato in particular, see Eckhardt, Violoncellschulen, pp. 50ff, and Pape, Entwicklung des Violoncellspiels, p. 70f.

[58] Reflected in the layout of technical material in, for instance, Eisenberg, Cello Playing, and L. Potter, The Art of Cello Playing (Evanston: Summy-Birchard Co., 1964).

[59] Discussed by Eckhardt, Violoncellschulen, chapter 4, also Moser and Nösselt, Geschichte des Violinspiels, pp. 313ff.

[60] Pape, Entwicklung des Violoncellspiels, p. 159 for historical development; Eisenberg, Cello Playing, p. 110 for a contemporary example.

CHAPTER V

INSTRUMENTAL IDIOM AND MUSICAL STYLE

The foregoing description and analysis of two instrumental idioms have shown both similarities and major differences between the sarangi and the cello. The differences cannot be properly explained by the fact that the instruments themselves are different from each other. Theoretically, the technique of each could have developed in the direction of the other. For example, initially the cello, like the sarangi, used an underhand bow grip which sets physiological limits to the development of off-string bowings. Indeed, sarangi technique has never developed such bowings. Cello technique, on the other hand, abandoned the underhand grip by the late seventeenth century in favour of the overhand grip,[61] indicating a preference for the bowing potentialities of the latter and resulting in the development of an entire off-string bowing technique.

It has been suggested that "it was the musical instruments which created musical style," their construction, musical potentialities and tone colour "suggesting certain definite lines of musical development."[62] However, the history of music, and of musical instruments in particular, rather indicates the opposite: instruments are adopted, and their technique developed according to the stylistic demands of the music.

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[61] The usage of both bow grips is discussed by Georg Muffat in his preface to Florilegium Secundum (Passau, 1698), in Denkmäler der Tonkunst in Oesterreich, II, 2 (Graz: 1959), pp. 21ff; see also Marx, in Entwicklung des Violoncellspiels, p. 156f.

[62] Krishnaswami, Musical Instruments, p. 30.

Both the limits and the directions of the development of an instrumental idiom, even over an extended time period, are set by the general style character of the music. This does not preclude that, reciprocally, the particular characteristics of an instrument may exert some influence on stylistic developments. The keyboard in European musical history is an example. However, while such an influence may account for certain stylistic developments, these invariably take place within the confines set by the general stylistic norms of the music. This fact may be more obvious to the listener from outside the culture: an Indian listening to both Couperin and Liszt hears primarily what they have in common--perhaps as opposed to keyboard playing in his own music--whereas the Westerner is likely to hear primarily what sets the two composers apart.

Thus, in order to account for the particular development of an instrumental idiom it is necessary to inquire into the musical style at the most general level which underlies all its substyles, forming the base of the "pyramid of styles contained in every individual composition."[63]

Stylistic analyses within the Western musical tradition are generally based on musical structure, including such elements as form, rhythm, melody and harmony. This type of analysis, however, can hardly account for the general style character of the music which in such analyses is generally taken for granted. In order to observe elements of general style the music in question may best be approached from two perspectives, both related to musical structure: socio-cultural, and aesthetic. The following discussion identifies style elements of

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[63] E. Lippman, "Stil," in Die Musik in Geschichte und Gegenwart (Kassel: 1966), vol. 12, p. 1305.

Indian and Western music on these bases, and relates them to the instrumental idiom of both sarangi and cello.

Socio-Cultural Perspective

Role of the Performer

The North Indian performer is also the composer of his music; he thus combines creative and interpretative functions. He is an interpreter to the extent that his composition is always based on traditional musical material, but principally he is the creator of a new musical expression. Since there is a spontaneous link between the creation of a musical idea and its execution this process may be termed improvisation, although there is little about it that is extemporaneous.

The dual role of the Indian performer has two major musical implications:

(a) For the Indian musician what, not how he performs is of primary concern, in fact the "how" aspect is hardly distinguished as such. To the Indian musician a good sound is "what good handwriting is to a poet."[64] This presumably accounts for the relative lack of concern in sarangi technique with aspects of sound as such, including its quality, character, and volume.

(b) The scope of a musical composition is determined by the scope of the instrument as defined by the performing ability of the musician. His musical improvisation will not exceed his technical capability, nor

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[64] Narayan Menon, "Basic Principles of Musical Expression as they are found in the Music of India," in W. K. Archer, ed., The Preservation of Traditional Forms of the Learned and Popular Music of the Orient and Occident (Urbana: University of Illinois Press, 1964), p. 195.

will it run counter to the particular idiom of the instrument. Further, the stimulus for technical development provided by the work of a non-performing composer is absent. This accounts for the relatively limited range and the general absence of technical innovation of sarangi technique.

Western music, too, has had its tradition of improvisation existing side by side with the performance of written compositions, but its manifestations are identifiable in such specialized areas as folk practices, vocal embellishments of solo art songs, figured bass realization, cadenzas of concertos, and, a tradition still surviving in France of improvised organ performance. However, these practices, significant as they may be, are adjuncts to the basic Western concept of the performer as an interpreter only. For centuries, composition and performance have been separate processes, even where they may have been carried on by the same person. Musicians performing mainly their own compositions were commonly heard particularly in the nineteenth century, among them famous cellists like Bernhard Romberg and A. F. Servais.[65] Even for the composer-performer, however, performance means the interpretation of his finished composition.

The interpretative role of the Western performer has two major implications, paralleling those identified for the Indian performer:

(a) For the Western musician, how he performs is of primary concern, for the "what" of his performance is a musical structure already established. This accounts for the emphasis in cello technique on aspects of sound for itself, including tone production, dynamics,

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[65] Pape, Entwicklung des Violoncellspiels, pp. 153f, 167.

vibrato, as well as on articulation and on the range of variation in all these factors.

(b) The scope of the composed music may exceed the scope of the instrument as mastered by the performer; thus it may act as a stimulus for further development of the instrument's technique. In the case of the cello this has led to a vast technical range far beyond the limits of "idiomatic" string playing.

Performance Context

Traditionally, Indian music has been performed by professionals for a relatively small, cultured elite, and until recently its centers were the princely courts and the aristocracy surrounding them. Audiences, therefore, have been composed typically of intimate gatherings of connoisseurs. This allowed the performer to revel in subtleties of musical expression without concern for sound, volume or projection.

When the expansion of musical activities, concurrent with certain social changes, led to the spread of large public performances, sound amplification had already been well established. The radio, as the chief patron of classical music and agent for its dissemination, set a prominent precedent in the use of amplification for music broadcasts. As a result, the use of amplification in public concerts has become standard practice. Hence, no adjustment to new acoustical conditions, such as large concert halls or open-air performances, has been required of the Indian performer. Sarangi technique, therefore, continues to place no emphasis on volume, or on the articulatory aspect of bowing, two principal means of acoustic projection.

In the Western tradition, on the other hand, the social expansion

vibrato, as well as [illegible]
all these factors.

[illegible]

aspects of [illegible]

In the [illegible]

of musical activities and performance long preceded the advent of electronics. As a result, many weaker sounding instruments were abandoned or superseded. The gradual preference given to the cello over the weaker gamba is itself related to the need for a more forceful sound in stringed instruments. This demand increased with the growing size of concert halls, and once established, the tradition of performing classical music without amplification has persisted. It follows that cello performance technique has placed increasing emphasis on volume and intensity and--through bow speed and pressure as well as vibrato--on the projection of nuances mainly by means of articulation, resulting in a highly sophisticated repertoire of articulatory bowings.

Another aspect of performance context relating to volume and projection is the composition of the performance group. In classical Indian music the standard ensemble is a small chamber group in which each performer has a distinct musical function, that of soloist, melodic accompanist, rhythmic, or drone accompanist. The sarangi player may either be a soloist or accompanist to a singer. At no time is he competing against the sound of a large ensemble, or of a much louder instrument. This stands in contrast to Western music where in particular the juxtaposition of the solo instrument with piano accompaniment or with a large orchestra has required further emphasis on volume and projection for the cellist. The sarangi player, on the other hand, has no such reason for this type of emphasis.

One other facet of performance context specific to the sarangi has a certain bearing on its performance technique. It is the

special function of the sarangi to provide vocal accompaniment. This accompaniment is purely melodic and of a heterophonic type, that is, the sarangi "follows the vocal line like a musical shadow"[66] while at the same time adding a certain amount of embellishment. This accounts for an emphasis on melodic progression and a requirement for agility and variety in shifting.

Aesthetic Perspective

Indian art music has a highly developed aesthetic in which a gamut of emotions (rasa) is related to melodic movement exclusively. The unit of musical aesthetic is the rag (see p. 6),[67] hence Indian music is an aesthetic concept based only on melody and could be called unidimensional. This implies a separation of rhythmic movement from melodic movement; rhythmic movement is provided by a continuous percussion accompaniment independent of the melody. Melody is conceived of as spatial movement, "a musical curve . . . an aesthetic combination that consists of continuous transition and shows the space value of music . . . without relation to musical time or rhythm."[68] Of course every melody inevitably moves in time as well, but in Indian music there is every attempt to obliterate the sensation of recurrence and of rhythm from melodic movement, except for certain fast passages which submit to rhythmic organization. "Graces" or

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[66] Walter Kaufmann, The Ragas of North India (Bloomington: Indiana University Press, 1968), p. 28.

[67] Gosvami, Indian Music, pp. 216ff, W. G. Raffe, "Ragas and Raginis: a Key to Hindu Aesthetics," Journal of Aesthetics and Art Criticism, 11 (1952), p. 113f.

[68] R. L. Roy, "Hindusthani Ragas," Musical Quarterly, XX (1934), p. 323.

florid transitions from one pitch to another serve the essential function of providing spatial continuity between individual pitches, as they have "no definite duration but a place in the directional character of transition."[69]

Two major aspects of sarangi technique can be accounted for in terms of this aesthetic concept of melody or "musical space:"

(a) the almost exclusive emphasis on melody and melodic movement, and the great variety of highly developed shift types,

(b) the lack of emphasis on bowing strokes and patterns. Since they serve a basically rhythmic purpose, their development would be stylistically of little importance.

Western classical music reflects a very different aesthetic conception based on the interrelationship of movement in time and space. This, along with the vertical complexity of musical space (harmony), gives Western music what can be called a multi-dimensional character. Rhythm is the chief organizing principle of Western music;[70] in that sense rhythmic movement is "die eigentliche Seele der Musik" (the very soul of music)[71] and its "most striking manifestation . . . the very basis, the very life of it."[72]

This aesthetic concept is the most important stylistic reason for the extensive development of rhythmic features in cello technique,

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[69] Roy, "Hindusthani Ragas," p. 329.

[70] Erwin Stein, Form and Performance (London: Faber & Faber, 1962), p. 103.

[71] Ludwig Spohr, as quoted by Moser and Nösselt, Violinspiel, p. 268.

[72] Tobias Matthay, Musical Interpretation (Boston: The Boston Music Company, 1913), p. 151.

mainly bow strokes, bowing patterns, and different methods of articulation. At the same time it explains why melodic development as conceived for the sarangi would never take place in cello technique, for it would run counter to the very concept of rhythmically organized melody in which melodic progression is equated with "discontinuous change."[73]

Another aspect of Western music aesthetic is contrast or variety. It is related to the concept of rhythmic movement in the sense of being complementary to the monotony of motor impulse.[74] Like Indian music, "[Western] music must express a gamut of emotion,"[75] but it does so mainly through contrast or variation, the "nuance of tempo, dynamics, and timbre"[76] comprehensively termed "dynamic power."[77]

This priority most directly relates to the emphasis of cello technique on a range of tone, dynamics and timbre. It also accounts for the continuing development of cello technique in the area of "special sound effects" which is taking place in contemporary music.

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[73] Roy, "Hindusthani Ragas," p. 326.

[74] Ernst Ferand, Die Improvisation in der Musik (Zürich: Rhein Verlag, 1938), p. 275.

[75] J. Cantwell, "Contrast, the Secret of Exciting Music," Instrumentalist, 23 (May 1969), p. 86.

[76] Auer, Violin Playing, pp. 147ff.

[77] A term used by Casals, quoted in Eisenberg, Cello Playing, p. 125.

CHAPTER IV

CONCLUSION

This study has focussed on the sarangi and the violoncello, and on their playing techniques, with the aim of exploring the relationship between instrumental idiom and musical style. Comparing the techniques of these two related string instruments from two very different musical traditions has shown that the two idioms are considerably different and that these differences can only be accounted for in terms of the musical tradition from which each comes. Viewing the two instrumental idioms within their general stylistic context leads to some general observations.

It has been shown that the technical scope and playing standards of sarangi and cello do indeed reflect basic style characteristics of the Indian and Western music traditions, not only in a general way but also with regard to very specific aspects of performance technique. Further, the style characteristics themselves are not abstract musical notions, rather they are linked to cultural factors, if not directly expressive of them. Art music traditions, especially Western classical music, are usually studied in entirely musical terms, as independent cultural phenomena. On the basis of this study of instrumental idiom it would seem that, like ethnomusicology, Western musicology may benefit from adopting a wider socio-cultural perspective, especially where questions of meaning are concerned.[78]

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[78] The limitations of an entirely music-centered approach are directly related to the absence of such a perspective, see the representative Emotion and Meaning in Music by Leonard B. Meyer (Chicago University Press, 1956).

The foregoing outline of stylistic traits makes no claim to be complete, it is only a beginning toward analysing musical style as a whole within its cultural context. Further efforts in this direction should be useful for any analysis of specific manifestation within a particular style, be it an instrumental idiom, a specific sub-style, or even an individual composition, since they are all founded on the general style, as aptly illustrated by the metaphor "pyramid of styles."[79]

Another major point arises from the previous ones and, in a sense, complements them: performance technique, as a manifestation of musical style, could be used as a starting point for stylistic analysis, since it provides a concrete basis for identifying style characteristics. This, however, needs to be the subject of a future investigation.

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[79] Lippman, "Stil," p. 1304.

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22 (1950), 35-37.

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APPENDIX

SOURCE MATERIAL FOR THE SARANGI

Music Recordings

Discs

Beat and Bow. Pandit Ramnarain, sarangi, Pandit Chaturlal, tabla. 33 1/3 rpm, His Master's Voice, EALP 1312.

Sarangi, the voice of a hundred colors. Pandit Ramnarain, sarangi, Mahapurush Misra, tabla. 33 1/3 rpm, Nonesuch Explorer Series H-72030.

Pandit Ramnarain, Sarangi. With Manikrao Popatkar, tabla. 33 1/3 rpm, His Master's Voice, 7 EPE 1251.

Pandit Ramnarain, Sarangi. 45 rpm, Odeon EMOE-8.

Pandit Ramnarain, Sarangi. 45 rpm, His Master's Voice, 7 EPE 1251.

Ustad Hamid Husain, Sarangi. With Bashir Ahmed Khan, tabla. 33 1/3 rpm, His Master's Voice, ALPC 9.

Classical Music. Ustad Hamid Husain, sarangi, Allah Ditta Khan, tabla. 45 rpm, Columbia EKCE 20004.

Classical Music of India. I, 2, Fateh Khan, sarangi, Mohan Lal, tabla, I, 4, Mohammed Ismail, singer, Ustad Mehbub Khan, sarangi, Hidayat Khan, tabla. 33 1/3 rpm, Nonesuch Explorer Series, H-72014.

Tapes*

Ustad Bundu Khan, sarangi (India/Pakistan) from Radio Pakistan Collection, 1969.

Ustad Chhote Khan. From Lutfullah collection.

Ustad Hamid Husain, sarangi (Pakistan) (solo and accompaniment) performance recordings, 1965, 1968-69.

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*Tapes of music and interviews, as well as lesson notes, are in the author's collection.

Ustad Hyder Bakhsh, sarangi (Pakistan) from Radio Pakistan collection, 1969.

Ustad Mirza Mahmud Ali, sarangi performance recorded 1969.

Ustad Nathu Khan, sarangi (Pakistan) from Radio Pakistan collection, 1969.

Ustad Shakur Khan, sarangi from Lutfullah collection, 1969.

Ustad Umrao Bundu Khan, sarangi from Radio Pakistan collection, 1969.

Ustad Zahuri Khan, sarangi from Radio Pakistan collection, 1969.

Ustad Munir Husain Khan, sarangi from Radio Pakistan collection, 1969.

Interviews and Lesson Notes

Taped Interviews

Pandit Ramnarain (Bombay, 1969)

Ustad Hamid Husain Khan (Karachi, 1969)

Ustad Mirza Mahmud Ali (Lucknow, 1969)

Ustad Nath Khan (Karachi, 1969)

Ustad Umrao Bundu Khan (Karachi, 1969)

Lesson Notes

Pandit Ramnarain (Bombay, 1969)

Ustad Hamid Husain Karachi, 1968-69)

Date Due

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FEB 25
JUN 24
DE [illegible]
SEP 2 1980
JUL 17 1984
APR 30 [illegible]
DEC 30 1986

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